

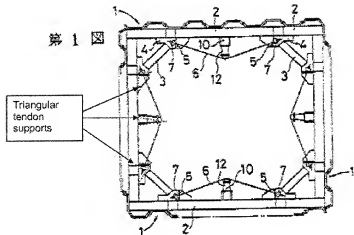
REMARKS

Claims 1, 3, 4, and 8 have been amended. Claims 2 and 9 have been canceled. Claims 1 and 3-8 are currently pending in the application. The Applicant reserves the right to pursue the original claims and other claims in this application and other applications.

Claims 1-9 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Japanese Patent Publication No. 63-019334 to Hosaka et al. ("Hosaka") in view of U.S. Patent No. 3,710,578 to Inoue. The rejection is respectfully traversed.

Claim 1 recites a "pressed scaffolding system for supporting an excavated earth retaining wall by forming a polygonal closed section, comprising: a tendon; a prestressed wale comprising a plurality of triangular tendon supports, being in contact with the tendon, and located in a middle portion of said wale, a tendon-anchoring unit at both ends of said wale, and a connecting brace for connecting the tendon to said triangular tendon supports and to said tendon-anchoring unit; and a strut constituted by a truss or a plurality of H-beams or an H-beam having a large cross section and supporting said tendon-anchoring unit, wherein the triangular tendon support is constituted by a vertical member and inclined members, or only by inclined members for forming a triangle." The cited combination of Hosaka and Inoue fails to disclose all the limitations of claim 1.

Hosaka discloses a waling system and shows four separate waling systems in Figure 1 along each wall of the square structure. (Figure 1, as marked-up in the Office Action, is reproduced below). Hosaka discloses that each waling system includes a steel wire 6 that spans a middle portion of waling 2 and is connected to a first and second receivers 7 on both ends of the waling 2. Between the two receivers 7, the steel wire 6 is connected to a base metal 10 with a jack 12. As shown in the mark-up of Figure 1, the Office Action submits that the Hosaka discloses the claimed "plurality of triangular tendon supports." The Office Action further submits that the receiver 7 of Hosaka is the claimed "tendon-anchoring unit" and that the strut 4 of Hosaka is the claimed connecting tendon. Applicant respectfully disagrees.



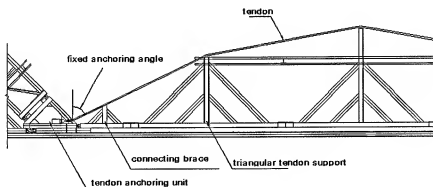
Applicant submits that Hosaka cannot show a plurality of triangular tendon supports and a pair of tendon anchoring units for a single waling system because Hosaka discloses that a single waling system includes only a pair of receivers 7 and the jack 12. In contrast, claim 1 recites “a plurality of triangular tendon supports, being in contact with the tendon, and located in a middle portion of said wale, [and] a tendon-anchoring unit at both ends of said wale.” If Hosaka discloses that the receivers 7 are the tendon-anchoring units, then Hosaka fails to provide the claimed “plurality of triangular tendon supports, being in contact with the tendon,” because only the single jack 12 will be in contact with the wire 6. Likewise, if Hosaka discloses a plurality of supports as shown in the marked-up Figure 1, then Hosaka fails to provide the claimed “tendon-anchoring unit at both ends of said wale.” Applicant submits that Hosaka only discloses a single base 10 that supports a wire 6 that is connected to receivers 7 on both ends of the wale. Thus, Hosaka fails to disclose all the limitations of claim 1.

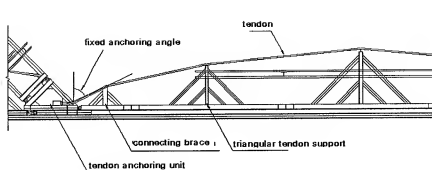
Furthermore, Hosaka fails to disclose that the claimed, “triangular tendon support is constituted by a vertical member and inclined members, or only by inclined members for forming a triangle.” The triangular shape of the tendon support helps prevent the tendon support from becoming distorted by the tension of the tendon. In contrast, Hosaka discloses that the wire or tendon support is formed by a single vertical base 10 and does not have inclined members. Exemplary triangular tendon supports with inclined members are reproduced below to show how

they are different than the elements of Hosaka labeled as triangular tendon supports by the Office Action.

Exemplary Triangular Tendon Supports	Elements of Hosaka Labeled as Triangular Tendon Supports

Hosaka also fails to disclose the claimed “connecting brace for connecting the tendon to said triangular tendon supports and to said tendon-anchoring unit.” The Office Action submits that element 4 of Hosaka is the claimed “connecting brace.” Applicant respectfully disagrees. Exemplary connecting braces as claimed are shown below.





The connecting braces are used where large compression forces are needed to support retaining walls. Under these conditions, bending of the tendon in the tendon-anchoring unit may lead to early tendon failure. This bending can be caused by using tendon supports of varying heights with the same tendon-anchoring unit. To prevent this, a connecting brace is used to connect the tendon between the triangular tendon supports and the tendon-anchoring unit. The connecting brace maintains the anchoring angle of the tendon at a fixed value to prevent any unnecessary bending of the tendon. This is shown in the illustration above where the anchoring angle of the tendon is fixed even though the size of the tendon supports varies. The connection brace is used to connect the tendon between the triangular tendon supports and the tendon-anchoring unit. The connecting brace maintains the anchoring angle of the tendon at a fixed value to prevent any unnecessary bending of the tendon.

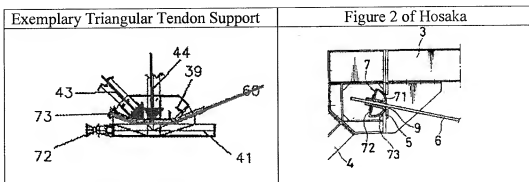
Element 4 of Hosaka appears to be either a strut between two receivers 7 or a plate supporting receivers 7. In either case, element 4 of Hosaka does not connect “the tendon to said triangular tendon supports and to said tendon-anchoring unit” as recited by claim 1. Further, Hosaka fails to disclose any element connected to the wire 6 between the base metal 10 and the receiver 7. Thus, Hosaka fails to disclose the “connecting brace” of claim 1. As a result, Hosaka fails to disclose all the limitations of claim 1.

The Office Action relies on Inoue to remedy the deficiencies of Hosaka. Inoue, cited by the Office Action as disclosing the utility of struts for shoring an apparatus, fails to remedy the deficiencies of Hosaka. Inoue is directed toward a system that uses a plurality of struts or braces to

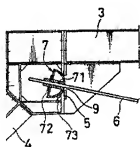
support a retaining wall. Inoue does not disclose or suggest the use of a tendon, a plurality of triangular tendon supports, a tendon-anchoring unit, or a connecting brace. Thus, the cited combination of Hosaka and Inoue fails to teach or suggest all the limitations of claim 1 and claim 1 is patentable. Claims 3-7 depend from claim 1 and are patentable for at least the same reasons. Claim 8 contains limitations similar to those recited in claim 1. Thus, claim 8 is patentable over the cited combination for at least the reasons discussed with regard to claim 1.

Additionally, the Office Action submits that the pile 25 and strut 18 are the claimed “piles” and “support beam” of claim 3. Applicant respectfully disagrees. The purpose of using an intermediate pile and a support beam is to prevent “a vertical buckling of the tendon support,” as recited by claim 3. On the other hands, the purpose of the strut 18 of Inoue is just to support wales and the purpose of a pile 25 of Inoue is just to hold the support beam from sagging. Thus, the cited combination also fails to disclose all the limitations of claim 3.

Claim 4 recites that “said tendon-anchoring unit fixes a tendon and couples with said wale for applying a compression force supported by said inclined members or vertical member, said inclined members or vertical member being inserted into the tendon-anchoring unit.” Thus, the inclined members or the vertical member is inserted into the tendon-anchoring unit to fix the tendon by applying compression force to the tendon directly. On the other hand, the tendon of Hosaka is not fixed tightly and is moveable in every direction since hemisphere shape tendon receiver 7 is used. An exemplary triangular tendon support is shown below in contrast to the receiver unit 7 of Hosaka shown in Figure 2 reproduced below. Thus, the cited combination also fails to disclose all the limitations of claim 4.

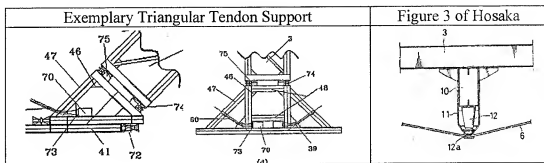


Claims 5 recites that said "tendon-anchoring unit forms an isosceles triangle ... wherein said tendon is fixed at one corner of said isosceles triangle and a member facing said corner is directly connected to a truss strut or through a hydraulic jack or a screw jack." Claim 6 recites that said "tendon-anchoring unit forms a trapezoid, the corner of said trapezoid is reinforced by a reinforcing member, said tendon is fixed at both corners, and a middle portion is directly connected to said truss strut or through a hydraulic jack or a screw jack." Hosaka discloses that the wire 6 is fixed the receiver 7 as in Figure 2 reproduced below. Wire 6 is not fixed to one corner of an isosceles triangle formed by the tendon-anchoring unit or at both corners of a trapezoid formed by the tendon-anchoring unit as recited by claims 5 and 6 respectively.



Moreover, claims 5 and 6 recite a hydraulic jack or a screw jack and claim 7 recites a screw jack or a precedent load jack that is a part of or directly connected to the tendon-anchoring unit. In contrast, the jack 12 of Hosaka is located on base metal 10, which functions as a tendon support between receivers 7. Exemplary tendon supports are shown below with screw jacks 75 and hydraulic jacks 74 as part of or connected to a tendon-anchoring unit as compared to the jack 12 in

Figure 3 of Hosaka which is located on base metal 10. Thus, the cited combination also fails to disclose all the limitations of claims 5-7.




Additionally, the Applicant notes that letters patent for corresponding applications in Korea, Japan, and China have been obtained, which provides some evidence of patentability. Accordingly, Applicant requests that the rejection be withdrawn and the claims be allowed.

In view of the above, Applicant believes the pending application is in condition for allowance.

Dated: November 4, 2010

Respectfully submitted,

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